

# Aircraft Certification Service

## Transport Airplane Directorate "Short" Domestic Worksheet

Frequency Converter No Output Short Circuit Protection

DOCKET NUMBER: 2004-NM-79-AD  
TECH WRITER:

Manufacturer's Service Information/Revision/Date (Attach 2 clean copies): COSP Board 11/21/01

### PROPOSED CORRESPONDING ACTION:

\_\_\_\_\_ Emergency AD

\_\_\_\_\_ Immediately Adopted AD

☒ Notice of Proposed Rulemaking

\_\_\_\_\_ Final rule after NPRM  
(If FRAN, complete Attachment A.)

\_\_\_\_\_ Other (No-Notice Final Rule)

Is this action one of the following?

\_\_\_\_\_ Supersedure of AD

\_\_\_\_\_ Revision of AD (Docket No. TBD)

\_\_\_\_\_ Supplemental NPRM (Docket No. TBD)

(If any of the above is checked, complete Attachment B.)

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APR 20 2004

ANM-114

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### 1. Model, Applicability, # Airplanes (both U.S. & worldwide) - Refer to SB; state any differences for this AD:

Model: Boeing 747-200F, 747-400; 767 Series, 777 Series - 747-200F - re: email from engr - no planes registered in the U.S. 5/17/04 - CP

Applicability: See Boeing Service Bulletins 747-25-3313 Revision 1, dated May 15, 2003, 767-25-0335 revision 0, dated November 7, 2002, 777-25-0210, Revision 0, dated October 17, 2003

# U.S. airplanes: 29

# worldwide airplanes: 147

Source:

### AD Summary and Discussion Sections:

#### 2. What has the manufacturer told the FAA?

"The FAA has received reports indicating that..."

Describe background/events that prompted the AD in 1-2 sentences. Refer to SB 'Reason.'

Boeing analysis has shown that a hard short condition between the output of frequency converter and its downstream circuit breaker will produce a continuous current of 55 amps, causing the undersized output wiring to exceed its wire temperature rating of 150 degree C

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**3a. What is the unsafe condition AND its cause?**

**"These actions are intended to prevent..."**

*Describe unsafe condition and its cause in 2-3 sentences (non-technical terms). Refer to SB 'Reason.'*

Frequency Converter has no output short circuit protection, may cause overheat condition.

**3b. What is the end-level effect on the airplane?**

**"...which could result in..."**

*Provide a 1-sentence description; use non-technical terms.*

If the output of Frequency Converters is shorted, it will overheat, potential causing a wire bundle failure. The bundle failure may affect other systems sharing the impacted bundle.

#### **AD Relevant Service Information Section:**

**4. (Yes or No) Is the corrective action required in this AD considered to be interim action?**

NO

**5. (Yes or No) Is this action considered 'sensitive', or is it related to a Safety Recommendation?**

*(If yes, state why sensitive, and/or provide copy of FAA/NSTB Safety Recommendation.)*

NO

**6. Does the referenced service document include reference to an "operator's equivalent procedure?"**

*[If yes, specify whether that procedure employed by the operator (even if not technically 'equivalent') adequately addresses the identified unsafe condition and provides an acceptable level of safety.]*

NO

**7. AD Differences Section (if needed):**

**"This AD differs from the SB ....**

Check if: Flight with Cracks \_\_\_\_\_ Mandate Terminating Action \_\_\_\_\_ Contact Mgr, FAA \_\_\_\_\_  
Compliance time \_\_\_\_\_ Mandate AFM Action \_\_\_\_\_

*Describe any other differences between service bulletin and this proposed FAA AD.*

None

#### **AD Cost Impact Section:**

**8a. Work hours for corrective action(s) required: (List hours or reference SB 'Manpower').**

For 747 airplanes: 4.75 hours per converter.

For 767: 1.75 hours per converter

For 777: 4.00 hours per airplane

**8b. Parts Cost, if any: (List costs or reference SB 'Material - Cost and Availability').**

Negligible

## 9. AD Body Section:

**For EACH corrective action, mark up SB, if usable -OR- fill out Corrective Action Table below.**

### 9a: Action # 1

**What is the corrective action?** Remove the frequency converters. Route frequency converter to Avionic Instruments Inc. for rework. Install frequency converter and perform functional test. All the above activities to be performed according to Boeing Service Bulletins 747-25-3313, Rev 1, dated May 15, 2003, 767-25-0335 Revision 0, dated November 7, 2002, 777-25-0210 Revision 0, dated October 17, 2002.

**What is its compliance time?** Within 18 months from the effective date of this AD.

**(Add grace period if not available)**

**What is repetitive interval?** N/A

### 9b: Action # 2

**What is the corrective action?**

**What is its compliance time?**

**(Add grace period if not available)**

**What is repetitive interval?**

**10. (Yes or No) Should corrective action(s) required in this AD to be applied to spares as well?**

NO

**11. Should a ferry flight permit be:** ☒ Permitted ☐ Permitted with limitations\* ☐ Prohibited ☐

\*List limitations.

**12. With whom outside the FAA has this proposal been discussed (i.e. ATA, RAA, ALPA, etc.)?**

**NOTE: This item should be completed prior to submission of the AD Proposal Worksheet.**

<u>Organization</u>	<u>Person Contacted</u>	<u>Date</u>	<u>Reaction</u>
BACG	David Nguyen	11/02	Concurrence
ATA	Charlie Bautz	01/13/04	Concurrence

**13. Check the appropriate response:**

Yes ☐ No ☒ **Does this action affect the Presidential fleet?**

Yes ☐ No ☒ **Does this action affect the FAA fleet?**

Yes ☐ No ☒ **Was this action prompted by the use of suspected unapproved parts (SUP)?**

**14. Check the category that best describes the cause of the unsafe condition addressed by this AD:**

<input checked="" type="checkbox"/> Design Problem	<input type="checkbox"/> Unapproved Parts	<input type="checkbox"/> Operational
<input type="checkbox"/> Maintenance	<input type="checkbox"/> Quality Control Problem**	<input type="checkbox"/> Other (specify): _____
	<input type="checkbox"/> **Reporting Reqt Needed?	_____

4/2/2004

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